

Arctic Shipping Perspectives and Priorities



Arctic Shipping Conference
2015

March 2015



- Shorter Shipping Distances

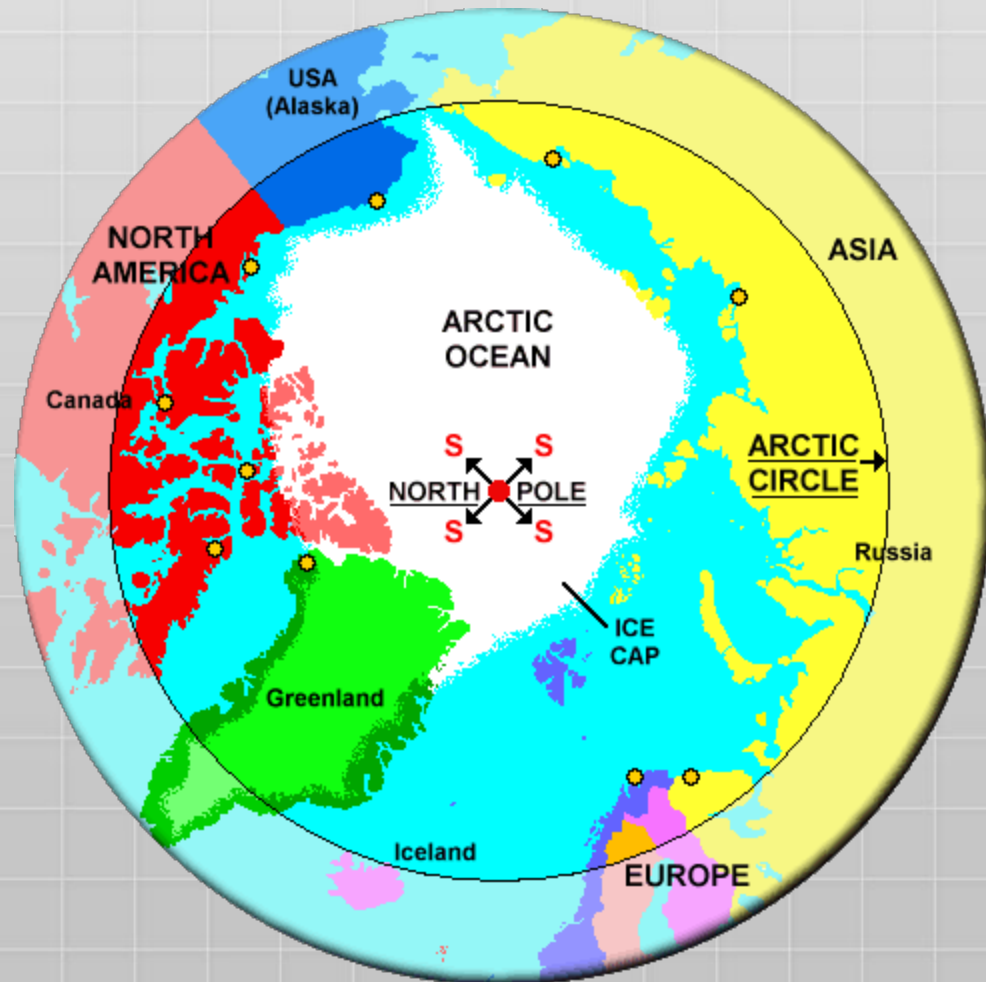
Distance Hamburg
To Yokohama
(nautical miles)

Northern Sea Route -
6,920

Suez Canal - 11,073

Panama Canal - 12,420

Cape of Good Hope -
14,542



U.S. National Strategy



NATIONAL STRATEGY FOR THE ARCTIC REGION

MAY 2013



Arctic Strategy



Goal:

"to respond effectively to emerging opportunities – while simultaneously pursuing efforts to protect and conserve this unique environment."

- 1. Advance United States Security Interests**
- 2. Pursue Responsible Arctic Region Stewardship**
- 3. Strengthen International Cooperation**

Arctic Strategy - Implementation



Implementation Plan for the National Strategy for the Arctic Region (Implementation Plan)

- **Released on January 30, 2014**
- **Establishes a framework to guide federal government activities**
- **Sets forth the methodology, process, and approach for executing the National Strategy for the Arctic Region**
- **Addresses infrastructure needs to support increased maritime transportation activities**
- **Promotes enhanced research for a changing Arctic and continues a proactive role by the U.S. through international agreements.**

Arctic Strategy Maritime Administration



- **As the advocate for the maritime industry, the Maritime Administration plays a key role for the Department in the Arctic strategy and implementation.**
- **Coordinated approach toward identifying infrastructure improvements in support of maritime Arctic activities.**
- **Activities prioritized in consideration of national security, navigation safety, and stewardship of natural resources.**

Arctic Strategy

Maritime Administration



As tasked by the National Strategy for the Arctic Region, the Department of Transportation key deliverables:

- **Develop a 10-year projection of maritime activity in the Arctic region in conjunction with the Committee on the Marine Transportation System (CMTS) <http://www.CMTS.gov>**
- **Build a 10-year prioritization framework to coordinate the phased development of federal infrastructure identified through a department- and agency-validated needs assessment**
 - **End of 2015 projected completion**
- **Create recommendations for pursuing federal public-private partnerships in support of the needs assessment and identified prioritized activities.**
 - **End of 2015 projected completion**

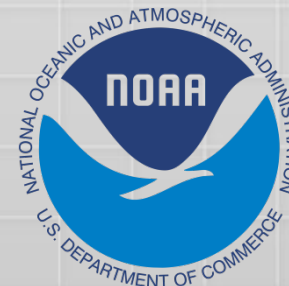
CMTS – U.S. DOT Study



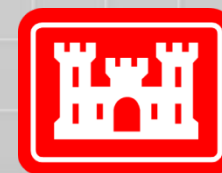
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DOT INTERNATIONAL ENGAGEMENT



- **Serves in the U.S. delegation to the International Maritime Organization (IMO) in the development of a mandatory Polar Code for shipping, expected to be completed in 2016**
- **Participates the Interagency Arctic Research Policy Committee and helps develops priorities for its five-year research plan**
- **Works closely with the U.S. Coast Guard, Federal Emergency Management Agency, and other agencies as they examine the potential of a spill of national significance in the Arctic**
- **Participates in various Department of Defense and Department of Homeland Security committees to increase domain and situational awareness for shipping in the Arctic, including the National Maritime Intelligence Integration Office.**

DOT INTERNATIONAL ENGAGEMENT



- **Assists with coordinating research with potential safety implications**
 - **Office of the Assistant Secretary for Research and Technology**
 - **Panels to providing funding for University Transportation Center (UTC) review and selection of DOT designated UTCs.**
- **Provides Statement of Facts and other guidance.**
 - **Including Congressional responses for port development, and the need for icebreakers for a functional Arctic transportation system.**
- **Advisor to many Technical Committees within the IMO and the International Organization for Standardization**
 - **Assisting with the development of a Polar Code, which complements mandatory safety standards for passenger ships and other vessels operating in ice covered waters.**

IMO Polar Code -- How is MARAD Involved?



WHAT DOES THE POLAR CODE MEAN FOR SHIP SAFETY?

EQUIPMENT



WINDOWS ON BRIDGE
Means to clear melted ice, freezing rain, snow, mist, spray and condensation



LIFEBOATS
All lifeboats to be partially or totally windward type



CLOTHING I
Adequate thermal protection for all persons on board



CLOTHING II
On passenger ships, an immersion suit or a thermal protective aid for each person on board



ICE REMOVAL
Special equipment for ice removal, such as structural and pneumatic devices, special tools such as axes or wooden clubs



FIRE SAFETY
Extinguishing equipment operates in cold temperatures; protect from ice; suitable for persons wearing bulky and cumbersome cold weather gear



DESIGN & CONSTRUCTION



SHIP CATEGORIES
Three categories of ship which may operate in Polar Waters, based on:
A) medium first-year ice
B) thin first-year ice
C) open waters/ice conditions less severe than A and B



INTACT STABILITY
Sufficient stability in intact condition when subject to ice accretion and the stability calculations must take into account the icing allowance



MATERIALS
Ships intended to operate in low air temperature must be constructed with materials suitable for operation at the ships polar service temperature



STRUCTURE
In ice strengthened ships, the structure of the ship must be able to resist both global and local structural loads

OPERATIONS & MANNING



NAVIGATION
Receive information about ice conditions



CERTIFICATE & MANUAL
Required to have on board a Polar Ship Certificate and the ship's Polar Water Operational Manual



TRAINING
Masters, chief mates and officers in charge of a navigational watch must have completed appropriate basic training (for open water operations), and advanced training for other waters, including ice

BACKGROUND INFO

THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS WAS ADOPTED NOVEMBER 2014 BY THE IMO MARITIME SAFETY COMMITTEE

IT APPLIES TO SHIPS OPERATING IN ARCTIC AND ANTARCTIC WATERS

THE AIM IS TO PROVIDE FOR SAFE SHIP OPERATION AND THE PROTECTION OF THE POLAR ENVIRONMENT BY ADDRESSING RISKS PRESENT IN POLAR WATERS AND NOT ADEQUATELY MITIGATED BY OTHER INSTRUMENTS

MARAD MISSION AREAS

- **MARAD's programs promote the use of waterborne transportation and its seamless integration with other segments of the transportation system, and the viability of the U.S. merchant marine.**
- **Primary mission is to promote waterborne transportation and commerce**
 - **Including ships and shipping, shipbuilding, port operations, vessel operations, national security, environment and safety**
- **Promote the development and maintenance of an adequate, well balanced United States Merchant Marine**
 - **Sufficient to carry the Nation's waterborne commerce and a substantial portion of its waterborne foreign commerce.**

ENVIRONMENT, SAFETY, SECURITY



- **With glacial ice caps receding, environmental requirements and economic incentives are driving a transformation of global maritime activities; as such, there is a call for new regulations in the areas of safety, security and the environment**
- **MARAD is not a regulatory agency, but rather an agency whose mission is to support a healthy and robust U.S. maritime transportation industry**
- **MARAD represents maritime transportation interests with other U.S. federal agency partners and in international organizations**
- **Seeking a balanced approach between the needs of safety, security, environment, and commercial mobility**

PORTS AND PORT INFRASTRUCTURE

- **MARAD provides expertise on port finance and port infrastructure**
- **Ports are a vitally important part of the Marine Transportation System, which includes ports, inland and coastal waterways, and intermodal connectors.**
- **MARAD, through its Strong Ports and Marine Highways Programs, provides expertise on loan and grant programs as well as port infrastructure needs.**

MARINER TRAINING

- **U.S. Merchant Marine Academy and State Academies train and educate the maritime work force**
- **MARAD plays a role in merchant mariner work force development; there are courses that will have to be developed in order to implement Arctic maritime training into curriculums.**
- **This will ensure that the students are properly trained in working in the Arctic region**
- **MARAD supports maritime training and education through the U.S. Merchant Marine Academy, support of six State maritime academies, and several outreach and continuing education programs**

INTERNATIONAL PRIORITIES



- **Working with the Arctic Council to ensure a sustainable maritime transportation system in the Arctic region.**
- **Assisting the IMO in implementing the mandatory Polar Code for shipping in the Arctic region.**
- **Providing capable oil spill response to ensure the Arctic region is properly protected.**
- **Harmonizing safety, SOLAS concerns with the appropriate Port States to ensure safe, sustainable operations of vessels transiting in, out, and through the Arctic region**
- **Cooperating with other interested parties that promote shared Arctic State prosperity, protect the environment and enhance security (non-governmental organizations, trade associations)**

GLOBAL ARCTIC CHALLENGES

- **The growth of maritime activities in the Arctic and the pursuit of enhanced transport require better navigation and communications to ships and an extended emergency response service, including Search and Rescue (SAR)**
- **A wide range of challenges are facing shipping operations due to the extreme distances between ports, climatic and weather conditions, as well as winter darkness through many months in the year**
- **Low temperatures, summer fog, and long distances to resources require infrastructure, new and early warning systems, survival kits, lifesaving equipment, rescue units, and survivability operating procedures.**

CONSIDERATIONS



- **Polar Ice Code considerations at IMO - design, construction, equipment, environment and safety**
- **Environment - vessel emissions (air, water, under-water noise radiation, oil-water, hull coatings)**
- **Environmental sustainability**
- **Vessel - accidental oil discharges in the Arctic - long-term impacts**
- **Security and Defense –**
- **Safety - SOLAS, SCTW, SAR,**
- **Providing real time navigational information to transiting vessels**
- **Ship design - cold weather, maritime training**
- **Adjusting sailing in long periods of darkness, extreme cold weather – psychological and human factors**
- **Vessel engineering and design**
- **Vessel construction**

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**U.S. DEPARTMENT OF TRANSPORTATION
MARITIME ADMINISTRATION
OFFICE OF INTERNATIONAL ACTIVITIES
Richard S. Corley, Senior Advisor**